

Title (en)

Material for vapour deposition of high refractive optical layers

Title (de)

Aufdampfmateriale zur Herstellung hochbrechender optischer Schichten

Title (fr)

Matériau pour la deposition par vapeur des couches optiques à haute index de refraction

Publication

EP 1219724 B1 20110316 (DE)

Application

EP 01128949 A 20011206

Priority

DE 10065647 A 20001229

Abstract (en)

[origin: EP1219724A1] Composition for producing highly refractive coatings by vacuum vapor deposition comprises a sintered mixture of: (1) lanthanum oxide (La₂O₃) (10-65 wt.%); and (2) a combination of titanium (Ti) and titanium dioxide (TiO₂) with an oxygen:titanium atomic ratio of 1.5-1.8 (35-90 wt.%). Independent claims are included for the following: (i) a process for producing (I) comprises preparing a homogeneous mixture of TiO₂, Ti and La₂O₃, granulating the mixture to a particle size of 1-4 mm and sintering the product under vacuum; (ii) a process for producing an optical coating on a substrate comprises: (a) cleaning and drying the substrate and fixing it on a holder in a vapor deposition unit; (b) evacuating the unit down to 10<-5> mbar, heating the substrate to 280-310 degrees C; (c) admitting oxygen into the unit until the pressure is 1-2 x 10<-4> mbar; (d) melting (I) in a screened-off electron beam vaporizer attached to the unit and heating (I) to its vaporization temperature of 2200-2300 degrees C; and (e) opening the screen to coat the substrate with (I) to a predetermined thickness.

IPC 8 full level

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